TANNOY®

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OWNER'S MANUAL

CONTENTS PAGE

Introduction	2
Amplifier Matching	3
Fine Tuning	4
Bass Tuning	5
Bi-Amping	6
Screening	7
Technical Specifications	8-11

WARRANTY

This equipment has been produced and tested with care and precision. All Tannoy speaker systems are built to give first class service and carry a 5-year warranty. Active subwoofers carry a 1-year warranty.

If the equipment proves to be defective within this period for any reason other than accident, misuse, unauthorised modification or fair wear and tear, Tannoy will repair any such defect or, at our option, replace it without charge for parts, labour or return carriage. This warranty is given in addition to the customer's statutory rights.

If you suspect a problem with your loudspeakers please contact your local Tannoy dealer who will be able to advise on appropriate action.

INTRODUCTION

Thank you for selecting Tannoy loudspeakers; developed in the UK by our dedicated team of design engineers they are the choice of discriminating music lovers the world over. Musical excellence is designed into our loudspeakers from the start. Careful selection of the very best components combined with strict quality control procedures in the production process ensures this level of excellence is maintained.

To gain maximum performance from your loudspeakers, please take time to read this owner's manual in full before installation. Once you have set up your new loudspeakers please complete and return the registration document - this does not limit your legal rights.

Loudspeakers are electromechanical devices that 'run-in' through use; performance will therefore improve after an initial period of 24hrs use. Once they have been further run-in over a longer period, there will be clear enhancement of the stereo imaging, mid-band quality and bass performance characteristics.

We are confident that you will continue to enjoy your new Tannoy loudspeakers for many years to come.

AMPLIFIER MATCHING

Consult the enclosed product specification sheet as this clearly shows the acceptable power range for amplifier matching to your speakers. The high peak power handling of Tannoy loudspeakers permits responsible use with more powerful amplifiers - please read the Warranty.

As with all loudspeaker systems, the power handling is a function of voice coil thermal capacity. Care should be taken to avoid overdriving any amplifier, as this will cause output overload resulting in 'clipping' or distortion within the output signal. This, if done for any extended period, will cause damage to the speakers.

Generally an amplifier of higher power that is running hard, but free of distortion, will do less damage to the loudspeaker than a lower power amplifier continually clipping. Remember also that a high powered amplifier running at less than 90% of output power generally sounds a great deal better than a lower powered example struggling to achieve 100%. An amplifier with insufficient drive capability will not allow the full performance of the loudspeakers to be realised.

CABLE CHOICE

Always use the best quality of cable available within your budget. High quality audio signals passing from the amplifier to the loudspeaker are unusual in their demands on the cable. Wide dynamic range and frequency bandwidth information has to coexist with the ability to transmit peak currents of at least 10amps, without incurring any loss or signal impairment. This explains why the sound quality of the information reproduced by the loudspeakers is so dependant on the physical properties of the cables connecting them to the amplifier.

Technically, we recommend two-core cable with cross section area not less than 1.5 square millimetres (1.5mm^2) for cable runs of up to 3 metres. For longer lengths you will require to use cable with a minimum cross sectional area of 2.5 square millimetres (2.5mm^2). In addition always keep the cable runs the same length for each speaker.

Cable construction can affect the sound quality. Be prepared to experiment to find a cable that suits your ear and audio system. We do not recommend the use of braided (Litz) or coaxial cables as these have a high capacitance that may affect the stability of certain amplifiers.

QUICK SET UP

PLEASE REFER TO THE SPECIFICATION AND INSTALLATION DIAGRAM SHEET SUPPLIED WITH THIS MANUAL

1. Remove the loudspeakers from all packaging.
   Fold the carton flaps right back and invert the carton and contents.
   Lift the carton clear of the contents.
   Remove all the inner packaging from the product.
   (See figure 1)
   It is strongly recommended that you store all the packaging to allow protected transportation in future.
2. Stand mounting or bookshelf speakers should be located securely in an appropriate position. If wall mounting any speakers, we strongly recommend that you use a bracket which will support the base of the speaker. Use of a bracket that screws directly onto the back panel of the speaker can cause too much strain to be exerted on the fixing point and the panel itself. This may cause panel detachment when in use and could present the risk of injury.
3. Floor-standing models perform best with carpet piercing spikes fitted. These are supplied, along with lock nuts, and should be fitted into the threaded holes in the base of the cabinet. Level the speaker and then tighten the lock nuts firmly but without using undue force. Spike locating cups are provided in the accessory pack and these may be used to protect sensitive floor surfaces.

4. To protect your speakers and amplifier from damage it is important to ensure that the amplifier is switched OFF prior to connecting or disconnecting any cabling.

   * Correct polarity of the cable connections between the amplifier and speakers is essential. **(See figure 2)**

   * For optimum performance when connecting the system in standard single wire mode to a speaker terminal panel equipped with full bi-wiring facility, always make cable connections, with the links fitted, to the HF terminals.
   (See figure 2)

   * The positive (plus) terminal on the amplifier left channel (marked + or coloured red) must be connected to the positive terminal on the left speaker. The left speaker is the one on the left as you look at the stereo pair from your listening position.

   * The negative (minus) terminal on the amplifier left channel (marked - or coloured black) must be connected to the negative terminal on the left speaker.

   * Repeat this connection process for the right speaker. Remember that the positive (+ or red) on the amplifier must be connected to the positive (+ or red) on the speaker and the negative (- or black) to negative.

   * Select a signal source, such as a CD player; switch on the amplifier and slowly turn up the volume control to check that both loudspeakers are reproducing bass and treble information.

FINE TUNING

To get best results from your new Tannoy loudspeakers it is worthwhile spending a little time finding the optimum set-up configuration.
Here are a few tips to help you with this process:

STAND MOUNTING AND BOOKSHELF SPEAKERS

Small speakers should not be placed directly on the floor but can be used on bookshelves or tables. However, the sound reproduction quality achieved will never be as good when not ideally positioned. Your dealer can show you a selection of purpose built stands, designed to realise the full performance potential of your loudspeakers.

Loudspeaker stands should be rigidly built and preferably mass loaded with dry sand. The optimum listening height will be dictated by the seating in your room, usually between 300mm (12") and 600mm (24") high. Stand mounted speakers will produce their best stereo image and soundstage if you can just see the top face of the cabinet. Check the 'lift' needed to put the speakers in this position before purchasing your stands.
Refer to the paragraph headed Positioning for stand mounted speaker placement advice.
(See figure 3)

FLOOR STANDING LOUDSPEAKERS

For optimum performance from floor-standing loudspeakers, the design team at Tannoy recommends that the supplied carpet piercing spikes be fitted. A rigid footing for the speaker, with a secure interface between the cabinet and the floor, brings about an improvement in clarity, bass 'speed' and definition.

First level the spikes by eye then hand tighten the lock nuts. Rock the loudspeaker gently from side to side so that the spikes find their way through the weave of the carpet and on to the solid surface below. Once fine adjustments have been made to level the loudspeaker and ensure stability, tighten the lock nuts firmly but without using undue force.
Refer to the paragraph headed Positioning for floor standing speaker placement advice.
(See figure 3)

BASS TUNING

Floor-standing loudspeakers with a sealed mass-loading cavity in the base of the cabinet can be loaded with either dry sand or lead shot. This cavity is accessed by removing the rubber bung from the small hole in the rear of the enclosure; the loading material can then be carefully inserted. The increase in mass and improved stability will further enhance the bass definition and overall dynamic performance.

Many Tannoy loudspeakers are also provided with a foam port damper bung inside the port tube located on the front or rear panel of the cabinet. The speakers have been designed for use in rooms with average to good acoustics without these dampers fitted, so please take them out before use.

In smaller rooms, where loudspeaker positioning is forced closer to rear or side walls, the port damper can be inserted into the reflex port. This will reduce the bass energy but 'speed-up' the sound presentation. There is no absolute right or wrong here, therefore much will depend on your own musical preferences.

POSITIONING

Begin by angling the speakers towards your chosen listening position, usually this is on the centre line of the room, so that when seated you can just see the inner side panel of each speaker.

The front of the loudspeaker should not be obstructed in any way.

The loudspeakers should be located between 1.5 to 4.5 metres (5ft to 15ft) apart - with the listening position set slightly further away than the speakers are apart.

Avoid positioning the loudspeakers in corners of the room, as this will have a negative effect on performance; maintain a distance of at least 0.5 metres (20 inches) from the rear wall, and 1 metre (39 inches) from the side. **(See figure 3)**

BI-WIRING

Where the facility to bi-wire your loudspeakers is provided we would strongly recommend that you install your system using this wiring option. With this method you will require separate cable feeds from your amplifier to the HF and LF units of each loudspeaker. Generally this will result in a significant improvement in resolution, transparency, stereo focus and instrument separation.

Use a high quality bi-wire cable to connect the speakers to the amplifier. It is recommended that the same cable length and type be used for both bass and treble.

It is essential that the coupling links between the loudspeaker terminals be removed. Avoid potential damage to your amplifier - ensure that all connections are secure and the polarity is correct in all wiring.
(See figure 4)

* Be sure that the amplifier is switched OFF and then prepare the two sets of cabling for each 'side' of the system separately. Measure and cut four lengths of cable, two per speaker.Label two of the cable lengths Left LF and Left HF (low frequency and high frequency) then repeat this process for the right pair.

* Undo the speaker terminals and remove the link bar - retain these in a safe place for future use.

* If your amplifier is not equipped with separate output terminals for bass and treble information then, at the amplifier end of the cables, twist the Left LF+ (positive) and the Left HF+ (positive) together. Connect these to the amplifier Left channel positive terminal marked + (plus) or coloured red.

  Twist the Left LF- (negative) and the HF- (negative) cables together and connect them to the amplifier Left channel negative terminal marked - (minus) or coloured black.

At the loudspeaker end connect the cables labelled Left LF+ and Left LF- to the left hand loudspeaker LF terminals, ensuring that you note the polarity markings on the cable sheathing.

Then proceed to connect the Left HF+ and Left HF- to the HF terminals on the same loudspeaker.

* Repeat this process to connect the right hand loudspeaker to the amplifier right channel output, once again ensuring that polarity is correct throughout.
* Switch the amplifier on with the volume control set at its lowest setting. Select a favourite source and slowly turn up the volume to a low level. Check that bass and treble information is being reproduced from both speakers- if not, switch off the amplifier and recheck the connections.

BI-AMPING

Bi-Amping extends the principle of bi-wiring one stage further. In this connection option separate power amplifiers are used for bass and treble signals in each loudspeaker. Four mono (or two stereo) amplifiers of the same type are required for a stereo pair of loudspeakers. Ensure that the links between the loudspeaker terminals are removed and that correct polarity is maintained throughout.

If two stereo amplifiers are used, it is recommended that one amplifier supply bass information to left and right loudspeakers and the other, the treble information.
(See figure 6)

GRILLES

Special acoustically transparent material is used on the grilles. However, for ultimate fidelity the enthusiast will appreciate the slight improvement in clarity and detail that is achieved by removing the grilles during listening.

CARE OF THE CABINET

Vinyl finished enclosures normally require no more than a wipe with a dry polishing cloth. Fingerprints or other more stubborn marks need only a gentle wipe with a slightly damp cloth.

Real wood veneer cabinets should only be cleaned with a dry cloth or with a light application of quality non-silicon furniture polish. It should be remembered that as a natural substance all wood products will change colour when exposed to the UV content of ambient light. Light veneer will darken appreciably to a rich natural patina; it is advisable to remove the front grille for the first few weeks of use to ensure an even colouration overall.

HOME CINEMA 5.1

Unlike other forms of encoded surround audio, 5.1 offers full bandwidth capability for the surround and centre channels, with the ability to treat the subwoofer as a single discreet channel for special effects playback or, for music applications, as a dedicated low frequency instrument channel. This places new demands on the surround and centre channel loudspeakers in both the mixing environment and the playback environment.

The 5.1 format allows the mix engineer in the recording studio to assign audio information to one or more discreet channels of playback; providing very vivid and exacting localisation for the apparent sound sources in the listening environment. To reliably recreate that accurate localisation during playback, the selection and location of loudspeakers becomes the single most critical issue next to the talent of the mix engineer in the studio.

THE SYSTEM

A fully operational 5.1 system consists of two main front loudspeakers, two rear effects speakers at the rear (usually wall mounted) and a centre channel. The subwoofer provides the .1 part of the system.
(See figure 5)

SCREENING

Loudspeaker drive units contain large magnets. These are capable of generating a substantial magnetic field extending a considerable distance beyond the sidewalls of the speaker enclosure. This field will cause picture distortion if the speakers are placed too close to the TV. With many home cinema loudspeaker products steps are taken to shield the drivers with the installation of a heavy steel cup around the magnet assembly. In most cases this will prevent any problems, but it should be borne in mind that some TV designs are more sensitive to magnetic field than others.

It is therefore recommended that the front (left and right) speakers are positioned at least 0.6 metres (20 inches) to each side of the television screen.

Centre channel speakers, which are designed for mounting directly on top of the TV, often have an additional steel plate inserted into the bottom of the enclosure to avoid any interaction with the screen.

FRONT SPEAKERS

The main speaker pair provides much of the delivery of the front soundstage; they should therefore be large enough to handle the power output and dynamics required. Stand mounted speakers can be used for this purpose but the power handling and extra bass extension achievable from floor standing models will add greatly to the overall assurance of the performance. The speakers should be positioned either side of the TV or projection screen placed in line with the screen surface.

CENTRE CHANNEL SPEAKERS

As the main effects speaker for the front soundstage, the critical factor in its performance is placement. In all cases the centre channel speaker should be placed as near to the TV screen as possible; effective shielding will allow placement on top of the TV itself. If the shape of the top of the TV casing will not allow a stable placement it can be shelf mounted just above. The viewing position when seated determines the ideal mounting height, but in all cases this should be as close as possible to ear height

As with the main speakers the front baffle panel should be as near as possible in line with the screen surface.

REAR EFFECTS SPEAKERS

The integrity of the special effects soundstage created by the source material will be compromised if the speakers are installed on the sidewalls, for that reason they should always be placed behind the main viewing position.

The placement of floor standing speakers at the rear should mirror as near as possible the location of the front pair and 0.5 metres (20 inches) from the rear wall. Wall-mounted loudspeakers should be shelf or bracket mounted 1.5 to 4.5 metres (5ft to 15ft) apart with a height mounting height range of 1.5 to 2 metres (5ft to 7ft).

SUBWOOFER

As the subwoofer only produces low frequency, therefore monaural information, it is difficult to detect its location by ear. It could as a result be situated anywhere in the room, but optimum performance will be gained by locating the subwoofer between the main stereo pair of speakers. Bass output will increase when placed next to a wall or in a corner so use the subwoofer volume control to balance the output with the rest of the system.

For best results on a carpeted floor, screw the spikes provided into the threaded inserts underneath the cabinet, and adjust until level then tighten the lock nuts firmly but without undue force. On a polished wooden floor use the discs, included in the accessory pack, under the spike points to prevent damage to the surface.

TECHNICAL SPECIFICATIONS

	mX1	mX2	mX3	mX4	mXC	mXR
PERFORMANCE						
Recommended amplifier power - Watts RMS	10-70	10-80	10-90	10-120	10-90	10-50
Recommended power handling - Watts Peak	100	120	120	180	150	70
Sensitivity - 2.8V in at 1 metre on axis	87dB	88dB	89dB	91dB	90dB	86dB
Nominal Impedance - Ohms	8	8	8	8	8	8
Frequency response +/– 3dB	55Hz-20kHz	48Hz-20kHz	35Hz-20kHz	31Hz-20kHz	68Hz-20kHz	59Hz-20kHz
DRIVE UNIT CONFIGURATION						
HF - soft dome mm (inches)	25 (1)	25 (1)	25 (1)	25 (1)		25 (1)
LF - ceramic coated paper cone mm (inches)	130 (5)	145 (6)	145 (6)	2 x 145 (6)		100 (4)
HF - soft dome, fully shielded mm (inches)					25 (1)	
LF - ceramic coated paper cone, fully shielded mm (inches)					2 x 100 (4)	
CROSSOVER						
Frequency	2.9 kHz mid/bass to high frequency	2.8 kHz mid/bass to high frequency	2.7 kHz mid/bass to high frequency	2.9 kHz mid/bass to high frequency. 500 Hz low frequency to mid/bass	2.9 kHz mid/bass to high frequency	2.8 kHz mid/bass to high frequency
Type	Acoustic Linkwitz-Riley crossover	Acoustic Linkwitz-Riley crossover	Acoustic Linkwitz-Riley crossover	Acoustic Linkwitz-Riley crossover	Acoustic Linkwitz-Riley crossover	Acoustic Linkwitz-Riley crossover
CABINET						
Enclosure type	Ported reflex	Ported reflex	Ported reflex	Ported reflex	Twin Ported reflex	Ported reflex
Port position	Rear	Rear	Front	Rear	Rear	Front
Dimensions H x W x D (mm)	298 x 165 x 220	330 x 185 x 246	850 x 185 x 246	940 x 185 x 246	153 x 420 x 195	240 x 144 x 136
Dimensions H x W x D (inches)	11.7 x 6.5 x 8.7	13 x 7.3 x 9.7	33.5 x 7.3 x 9.7	37 x 7.3 x 9.7	6 x 16.5 x 7.7	9.5 x 5.7 x 5.3
Weight kgs (lbs)	4 (8.8)	5.1 (11.2)	9.60 (21.1)	11 (24.2)	6.8 (15)	2.5 (5.5)
Finish options	All models are available in a light maple or dark oak finish enclosure with a silver grille					

	mX-SUB10
PERFORMANCE	
Output Power - Watts RMS	75 watts RMS, 150 watts peak, subject to thermal limitations.
Low frequency response	-6dB at 35Hz, in room typical response
Inputs	Line or loudspeaker level, stereo or mono
Input filter	1st order high pass for main speaker output, -6dB @ 75Hz 2nd order low pass, variable between 50Hz - 150Hz, -6dB.
Auto mute	After approximately 20 mins., in absence of input signal
Auto power on threshold	5mV at 50Hz (one line level input driven). 50mV at 50Hz (one speaker input driven).
DRIVE UNIT	
Driver type mm (inches)	250mm long throw Bass unit
Voice coil resistance - Ohms	3
ENCLOSURE	
Type	Closed box
Volume	27 litre
Size (h x w x d) mm (inches)	300 x 300 x 410 (11.8 x 11.8 x 16.2) Inc. grille and feet
Weight kg (lbs)	13 (28.6)
Additional Features	Phase invert switch. Soft limiting to avoid overload
Mains Voltage	100-120V, 200 - 240V nominal (selectable), 50 - 60HZ
Mains Fuse	T2A (100-120V) or T1A (220-240V)
Finish	Dark oak finish enclosure with a silver grille

SET-UP DIAGRAMS

FIG. 1

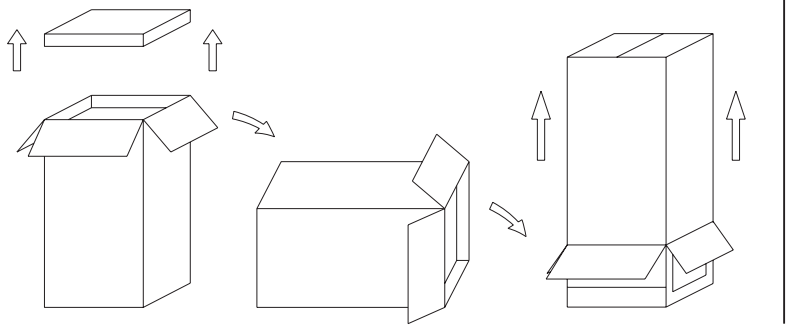
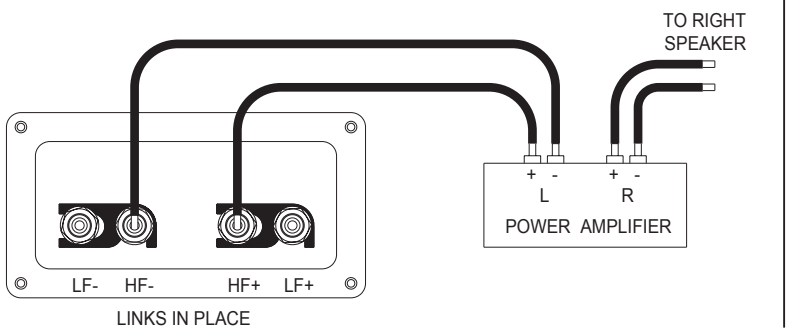


FIG. 2



SET-UP DIAGRAMS

FIG. 3

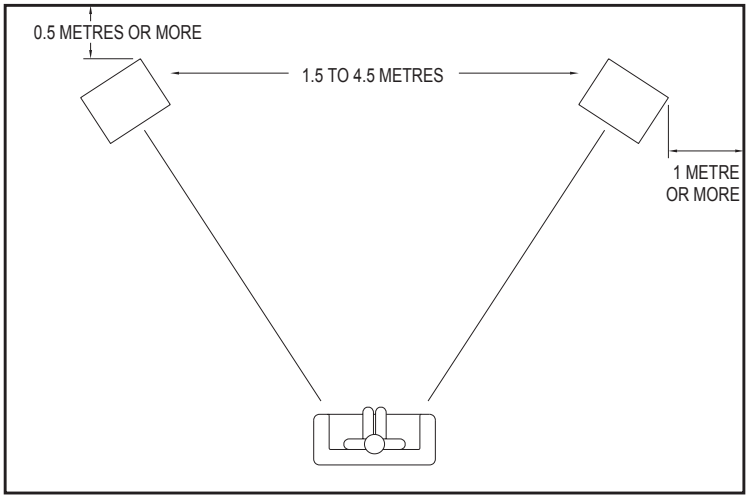
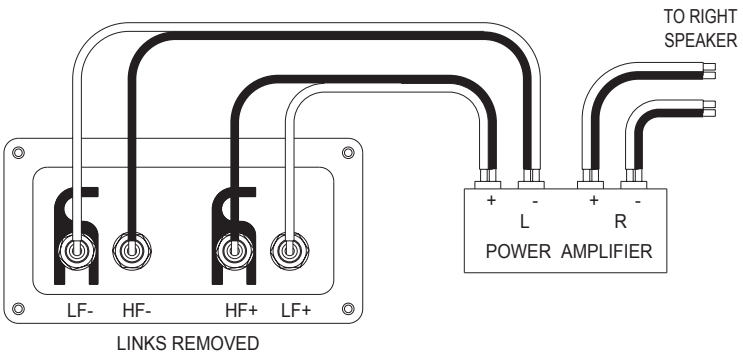


FIG. 4



SET-UP DIAGRAMS

FIG. 5

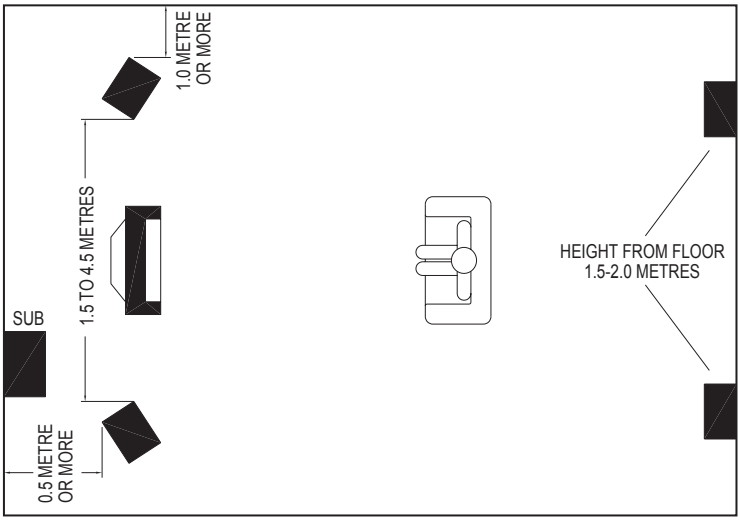
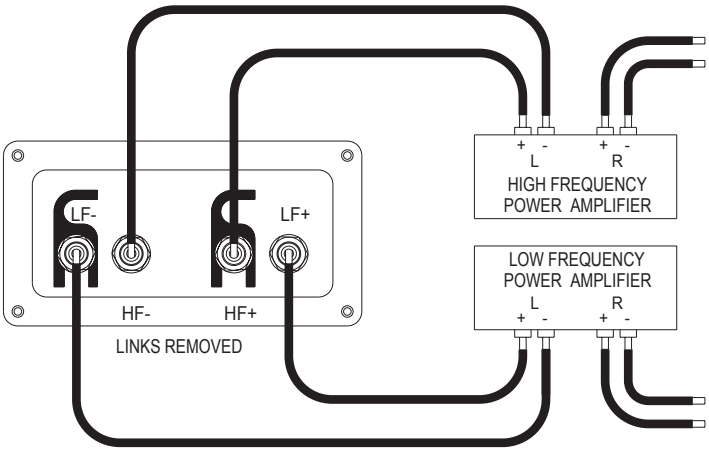


FIG. 6



TANNOY®

BREAKING SOUND BARRIERS

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